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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,238	01/29/2001	Mitsuo Saeiki	1080. 1090/JDH	6797

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EXAMINER

STERRETT, JEFFREY L

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 01/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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14

DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☒ Responsive to communication(s) filed on 11/19/02
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-40 is/are pending in the application.
- ☐ Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) 7, 14, 21, 28, 35 is/are allowed.
- ☒ Claim(s) 1-6, 8-13, 15-20, 22-27, 29-34, 36-40 is/are rejected.
- ☒ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☒ The drawing(s) filed on 11/29/01 is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

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1. Figures 1 and 2 should be designated by the legend --Prior Art-- because only what was old and known in the art at the time of the invention is illustrated (See MPEP § 608.02(g)).

Although Figures 1 and 2 may be felt to illustrate the inventive concept, they are so generic that they are more properly labeled "Prior Art".

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a display unit displaying that the synchronous switches are simultaneously turned on as recited by claims 2, 23, and 30 must be shown or the feature canceled from the claim. No new matter should be entered.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "52" has been used to designate both the charger in figure 2 and the DC-DC converter in figures 2-4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. Claims 1, 3-6, 8-13, 15-20, 22, 24-27, 29, 31-34, and 36-40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen (US 6,069,471) in combination with Kuriyama et al (US 5,933,341).

Nguyen teaches a regulator circuit as recited by claims 1, 3-6, 8-13, 15-20, 22, 24-27, 29, 31-34, and 36-40 except for utilizing a simultaneous switch conduction detection circuit.

Kuriyama et al teaches as old and known in the power conversion art at the time of the invention that simultaneous switch conduction detection circuits were known expedients in power conversion circuitry where simultaneous switch conduction was a problem. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the regulator circuit of Nguyen by utilizing a simultaneous switch conduction detection circuit, such as taught by Kuriyama et al, in order to not only attempt to prevent simultaneous switch conduction but to also detect simultaneous switch conduction in a manner that was old and known in the art at the time of the invention.

6. Claims 2, 23, and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen in combination with Kuriyama et al as applied to claims 1, 22, and 29 above.

Nguyen and Kuriyama et al collectively teach a regulator circuit as recited by claims 2, 23, and 30 except for utilizing a display unit displaying that the main synchronous rectifying switches are simultaneously turned on. Display operational conditions, such as when switches are simultaneously turned on, of power converters that would be of concern to users of the power

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converters was an old and known expedient in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the regulator circuit collectively taught by Nguyen and Kuriyama et al to include a display unit displaying that the main synchronous rectifying switches are simultaneously turned on since such was an old and known expedient in the art at the time of the invention.

7. Claims 7, 14, 21, 28, and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Applicant's arguments filed November 19, 2002 have been fully considered but they are not persuasive.

In response to the remarks concerning whether figures 1 and 2 should be labeled "PRIOR ART", as previously stated figures 1 and 2 are so generic that they should be labeled "PRIOR ART". The comment regarding figure 1 showing the exact dimensions of the inventive laptop, and thus differing from the prior art, is confusing since patent drawings are not generally considered to show the exact inventive device but rather the general overall inventive concept. Also if applicant believes that figure 1 illustrates the exact dimensions of the inventive laptop then either the applicant has a very small laptop or a very big nonconventional electrical socket to plug AC adapter 20 into because of the proportionality between the laptop 10 and the AC adapter 20

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(likewise applicant must be utilizing a huge battery pack 30 since it would appear to be approximately a quarter as big as the inventive laptop). Thus figure 1 can only be viewed as showing broadly the concept of a laptop 10 provided power by a removable battery pack 30 and/or an AC adapter 20, which as a broad concept is obviously and unquestionably prior art.

In response to the remarks concerning the display of simultaneous conduction of the switches, the examiner concedes that figure 2 does in fact include a box 58 labeled "DISPLAY" BUT maintains that this in no way illustrates, either explicitly or even implicitly, displaying the occurrence of simultaneous conduction of the switches. Further, the fact that the specification starting in line 14 of page 20 describes this feature in no way relieves applicant from showing somehow in the drawings this important feature that is recited by claims 2, 23, and 30. Currently, as stated above, figure 2 merely includes a generic box labeled "DISPLAY" requiring an inquiring reader to dig through the specification to determine whether display 58 is the display of the laptop or perhaps something else, like an indicator light on the case of the laptop, and then to determine what information the display is intended to impart. Thus the examiner suggests that box 58 simply be relabeled as "SIMULTANEOUS CONDUCTION DISPLAY" along with a signal line from DC-DC converter 52 that conveys when this condition occurs with the switches of the DC-DC converter.

In response to the remarks concerning the collective teaching of Nguyen and Kuriyama, contrary to applicant's position Nguyen and Kuriyama do in fact teach a switching regulator as recited by claims 1, 3-6, 8-13, 15-20, 22, 24-27, 29, 31-34, and 36-40. Applicant's argument that

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Kuriyama does not detect when both gates of the switches are simultaneously turned on is only valid in regards to claims 7, 14, 21, 28, and 35 since claims 1, 3-6, 8-13, 15-20, 22, 24-27, 29, 31-34, and 36-40 merely recite detecting when the switches are simultaneously turned on apparently regardless of how or why they are turned on, which is taught by Kuriyama. Thus it is suggested that the short and broad independent claims 1, 8, 15, 22, 29, and 36-40 be amended to incorporate the recitations of dependent claims 7, 14, 21, 28, and 35.

In response to the remarks concerning the logic of combining the teachings of Nguyen and Kuriyama, contrary to applicant's position Nguyen and Kuriyama do in fact teach analogous apparatus. Both concern conversion of power from one form to another, AC to DC or DC₁ to DC₂, and both would be concerned with the problem of switches simultaneously turned on across the DC bus. Kuriyama offers one solution to this problem and thus the logic to combine would be to use an old and known solution to an old and known problem in the power conversion art at the time of the invention.

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

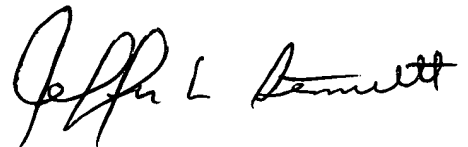
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sterrett whose telephone number is (703) 308-1632. The examiner can normally be reached on Monday through Thursday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry, can be reached on (703) 308-1680. The fax phone number for this Art Unit is (703) 305-7723 and the fax phone number for this Group is (703) 305-3431 or (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

jls

January 29, 2003



Jeffrey L. Sterrett

Primary Examiner

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